UNITED STATES PATENT AND TRADEMARK OFFICE

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EXAMINER
BENGZON, GREG C

ART UNIT	PAPER NUMBER
2144	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/27/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

	Application No.	Applicant(s)
	10/037,043	MITCHELL ET AL.
Office Action Summary	Examiner	Art Unit	
	Greg Bengzon	2144	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>09 February 2007</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13, 15-20, 23-25, 27 and 29-31* is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1- 13, 15-20, 23- 25, 27, 29-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All   b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This application has been examined. Claims 1- 13, 15-20,23- 25,27, 29-31 are

pending. Claims 14, 21, 22,26 and 28 have been cancelled.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set

forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this

application is eligible for continued examination under 37 CFR 1.114, and the fee set

forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action

has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on

02/09/2007 has been entered.

Priority

The effective date of the subject matter in the claims in this application is

November 9, 2001.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-3,6-12, 15-16, 18-19, 23-25, 27 are rejected under 35 U.S.C. 103(a) as

being unpatentable over Xu et al. (US Publication 2002/0114322) hereinafter referred to

as Xu, in view of Huitema (IETF Working Document 'MIDCOM Scenarios'), further in

view of Solle (US Publication 2003/0009561).

With respect to Claim 1, Xu discloses a method of controlling one of a plurality of

NAT/Firewalls in a communications network, each of the NAT/Firewalls being

connected to a plurality of entities in a respective one of a plurality of address realms of

the communications network, (Figures 1-2B) said method comprising the steps of:

(i) receiving a control message at a identity-providing node (Figure 1, Items 14a,

Item 14b, and Item 20) in the communications network, said control message

comprising information about one of the nodes in the communications network; (Page 4

Paragraph 49)

(iii) sending said identity of node to a NAT/Firewall control node (Xu- 'CCM

Server', Page 5 Paragraph 52-55, Page 8 Paragraph 94-97) in the communications

network in order to enable said NAT/Firewall control node to send control messages to

said first NAT/Firewall ; said NAT/Firewall control node being located in a different

address realm than that of said one of the entities;

and wherein the identity-providing node (Items 14a , 20) is separate from the

NAT/Firewall control node (Item 18) and located in a control signal path from said one

of the entities to the NAT/Firewall control node. (Page 5 Paragraph 52-55, Page 8

Paragraph 94-97)

Xu did not disclose (re. Claim 1) a middlebox device in the network.

Xu did not disclose (re. Claim 1) using the identity-providing node to determine

the identity of a first NAT/Firewall connected to said one entity in its respective one of

the plurality of address realms; and send said identity of the NAT/firewall to the control

node.

Huitema disclosed (re. Claim 1) that a middlebox may be a NAT inside a private

network. (Huitema - Page 1, Abstract) Thus, the middlebox described in Claim 1 is

equivalent to the NAT/Firewall disclosed by Xu.

Huitema disclosed of different scenarios for describing the MIDCOM protocol as

used for devices in the network that provide transport policy enforcement. Huitema

disclosed that examples of said 'policy enforcement' devices include firewall and

network address translators, such devices being a subset of what are otherwise referred

to as 'middleboxes'. (Huitema - Page 1, Abstract) Huitema also disclosed (re. Claims

4,5,20,21) that session description protocol (SDP) messages may be used to initiate

and facilitate the communication control process between the middleboxes and the

other devices involved. The SDP messages may include identification information

regarding the middlebox.(Huitema – Page 13, Section 2.3.6 Multiple Ports, Port

Ranges)

      Xu and Huitema are analogous art because they present concepts and practices

regarding communication control for middlebox devices such as NATs and firewalls.

      At the time of the invention it would have been obvious to combine the teachings

on middleboxes and SDP messages by Huitema into Xu . The combination of Huitema

into the network of Xu would 1) enable the devices in the network to communicate and

pass identification information using the SDP messages, and 2) enable the Call Control

Manager (CCM) server of Xu to recognize and control the NAT/firewall as a

'middlebox'. The suggested motivation for said combination would be, as Huitema

suggests, enable the network of Xu to 1) allow for third parties to provide transport

policy enforcement, and 2) overcome the traversal scenarios that Huitema describes.

(Abstract, Introduction)

      Sollee disclosed (re. Claim 1) a media portal (Sollee-Paragraph 91) that acquires

the public address of the corresponding NATs (Sollee-'Border system',Paragraph 20)

that are required for media session between clients behind a NAT/firewall. After

acquiring said NAT addresses, the media portal propagates the NAT addresses to the

call processing module in the application server, (Sollee-Paragraph 109, Figure 5, Step

410) and establishes a mapping table for the corresponding NATs.

The Examiner notes that the media portal by Sollee is equivalent to a middlebox-

identity-providing node because the media portal acquires the public address of the

NATs and forwards the public address of the NATs to a call control module.

Xu,Huitema and Sollee are analogous art because they present concepts and

practices regarding communication control for middlebox devices such as NATs and

firewalls. At the time of the invention it would have been obvious to combine Sollee into

Xu-Huitema such that the public address of the NATs are identified prior to the

exchange of media packets. The motivation for said combination would have been

(Sollee-Paragraph 9) so that the NAT/firewalls do not need to be aware of the

underlying protocols used for the communication session.

The Examiner notes that given Xu's intent to gather endpoint information at the

proxy server and propagate said endpoint information to the CCM, it would have been

obvious to modify Xu's proxy server to include the public address of the NAT and create

a mapping table at the CCM server so that Xu's CCM server is made aware that the

clients are sitting behind a firewall.

With respect to Claim 2, Xu-Huitema-Sollee discloses a method as claimed in claim 1 wherein said step (iii) of sending said identity comprises adding said identity to a control message and sending said control message. (Sollee-Paragraph 109, Figure 5, Step 410)

With respect to Claim 3, Xu-Huitema-Sollee discloses a method as claimed in claim 2 wherein additional information is also added to the control message. (Sollee-Paragraph 92-103)

With respect to Claim 6, Xu-Huitema-Sollee discloses a method as claimed in claim 1 wherein said control message is a call set-up message and said method is arranged to control said first NAT/Firewall in order to set-up a call from said one entity to another entity connected to a second NAT/Firewall in the communications network. (Xu-Page 4 Paragraph 51, Page 5 Paragraph 61-64)

With respect to Claim 7, Xu-Huitema-Sollee discloses a method as claimed in claim 6 wherein said second NAT/Firewall is connected to a plurality of entities in a second address realm different from the first address realm of the entities connected to the first NAT/Firewall . (Xu-Figure 1, Page 4 Paragraph 41)

With respect to Claim 8, Xu-Huitema-Sollee discloses a method as claimed in claim 7 wherein the NAT/Firewall control node is within a third address realm different from the first and second address realms. (Xu-Figure 1, Page 4 Paragraph 41)

With respect to Claim 9, Xu-Huitema-Sollee discloses a method as claimed in claim 8 wherein the third address realm is public. (Xu-Figure 1, Page 4 Paragraph 41)

With respect to Claim 10, Xu-Huitema-Sollee discloses a method as claimed in claim 9 wherein the first and second address realms are private. (Xu-Figure 1, Page 4 Paragraph 41)

With respect to Claim 11, Xu-Huitema-Sollee discloses a method as claimed in claim 1 wherein the NAT/Firewall -identity-providing node is selected from: one of the NAT/Firewalls; a gateway in the communications network; said one entity, being a user terminal in the communications network; a gateway comprising a business services channel manager (BSCM). (Xu-Figure 1, Page 4 Paragraph 41)

With respect to Claim 12, Xu-Huitema-Sollee discloses a method as claimed in claim 6 wherein said call passes through two or more NAT/Firewalls and wherein information about the identity of each such NAT/Firewall is added to said control message. (Sollee-Paragraph 155-166)

With respect to Claim 15, Xu-Huitema-Sollee discloses a method as claimed in claim 1 wherein each of the NAT/Firewall is selected from, a firewall, a network address translator (NAT), and a quality of service device . (Xu-Figure 1, Page 4 Paragraph 41)

With respect to Claim 16, Xu-Huitema-Sollee discloses a method as claimed in claim 1 wherein said NAT/Firewall-identity-providing node is arranged to determine the identity of the first NAT/Firewall by using pre-specified information. (Sollee-Paragraph 155-166)

With respect to Claims 18-19, the Applicant describes a communications network having the same limitations as described in Claims 1-12, 15-16. Claims 18-19 are rejected on the same basis as Claims 1-12, 15-16.

With respect to Claims 23, the Applicant describes a control node with the same limitations as described in Claims 1-12, 15-16. Claims 23 is rejected on the same basis as Claims 1-12, 15-16.

With respect to Claims 24 the Applicant describes a identity-providing node

with the same limitations as described in Claims 1-12, 15-16. Claims 24 is rejected on

the same basis as Claims 1-12, 15-16.

With respect to Claim 25, Xu-Huitema-Sollee disclosed a computer program

arranged to control a NAT control node, said NAT control node (Xu – Figure 1 Item 18)

comprising an input arranged to receive a control message (Xu – Paragraph 49)

comprising information about the identity of one of the NATs; (Sollee-Paragraph 109,

Figure 5, Step 410)

and a processor arranged to issue messages to the identified NAT in order to

control it; such that in use the NAT control node is able to control the identified NAT

without the need to maintain its own store of information about the identities of the NATs

and without the need to maintain its own discovery mechanism to discover the identities

of the NATs; the computer program comprising program code executable by the

processor in order to enable the NAT control node to: - receive a control message

comprising information about the identity of one of the NATs; (Sollee-Paragraph 109,

Figure 5, Step 410) and

to issue messages to the identified NAT in order to control it. (Xu – Paragraph

52-55, Paragraph 94-97)

With respect to Claim 27, Xu-Huitema-Sollee disclosed a computer program

arranged to control a NAT identity-providing node, said NAT identity providing node

(Sollee-Paragraph 91) comprising an input arranged to receive a control message

comprising information about one of a plurality of entities in the communications

network; (Sollee-Paragraph 91) a processor arranged to determine the identity of a first

NAT connected to said one entity; and an output arranged to send said identity to a

NAT control node in the communications network: (Paragraph 49) and wherein said

NAT-identity providing node is arranged to be closer in said communications network to

said one of the entities than the NAT control node: the computer program comprising

program code executable by the processor in order to enable the NAT identity-providing

node to receive a control message comprising information about one of a plurality of

entities in the communications network; (Paragraph 49) to determine the identity of a

first NAT connected to said one entity; and send said NAT identity to a NAT control

node in the communications network. (Paragraph 52-55, Paragraph 94-97)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 4,5,20,29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Xu et al. (US Publication 2002/0114322) hereinafter referred to as Xu, in view of Huitema (IETF Working Document 'MIDCOM Scenarios'), further in view of Solle (US Publication 2003/0009561) and further in view of Handley et al. (IETF Working Document RFC2327 'SDP:Session Description Protocol'), hereinafter referred to as Handley .

The combination of Xu-Huitema-Sollee did not disclose (re. Claims 4,5,20,29) using the SDP protocol for passing session initiation information.

The combination of Xu-Huitema-Sollee did not disclose (re. Claim 29) wherein the first middlebox is arranged to act as two or more independent middleboxes and wherein the step of providing the identity of the first middlebox to the middlebox control node comprises providing the identity of the first middlebox and the identity of a particular middlebox functionality relating to one of said two or more independent middleboxes that is to be used.

The Examiner notes that regarding *two or more independent middleboxes* , the courts have ruled that mere duplication of parts has no patentable significance unless a new and unexpected result is produced. Thus, this limitation is interpreted to mean a singular middlebox that is able to perform the functions of two middleboxes.

Handley disclosed (re. Claims 4,5,20) of the Session Description Protocol

including specifications for passing pre-defined attributes regarding the session and

media involved in the session. The `attribute' mechanism ("a=" described below) is the

primary means for   extending SDP and tailoring it to particular applications or media.

Some attributes (the ones listed in this document) have a defined   meaning but others

may be added on an application-, media- or . session-specific basis.(Handley - Section

6 – SDP Specification)

The Examiner notes (re. Claim 29) that it would have been well known in the art

that the SDP 'attribute' mechanism allows for application-specific control information,

and thus would have enabled the middlebox to distinguish the different functionalities

required for the session.

Xu-Huitema-Sollee and Handley are analogous art because they present

concepts and practices regarding communication control for middlebox devices such as

NATs and firewalls. At the time of the invention it would have been obvious to combine

the teachings regarding pre-defined attributes mechanisms on SDP messages by

Handley into the combined teachings of Xu-Huitema-Sollee. The said combination of

Handley into the combined network of Xu-Huitema-Sollee would facilitate sending the

identity information from the middlebox to the other devices in the network. The

suggested motivation for combining would have been, as Handley suggests, in order to

have a standard format for session initiation-related information, using text in   the ISO

10646   character set in UTF-8 encoding for enhanced portability. The encoding was

designed with strict order and formatting rules so that most errors would result in

malformed announcements which could be detected   easily and discarded. This also

allows rapid discarding of encrypted announcements for which a receiver does not

have the correct key. (Section 6 – SDP Specification)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Xu et al.

(US Publication 2002/0114322) hereinafter referred to as Xu, in view of Huitema (IETF

Working Document 'MIDCOM Scenarios'), further in view of Solle (US Publication

2003/0009561),   further in view of Srisuresh et al. (IETF Working Document '

Middlebox Communication Architecture and Framework'), hereinafter referred to as

Srisuresh.

With respect to Claim 13, the combination of Xu-Huitema-Sollee do not disclose a method as claimed in claim 1 wherein said NAT/Firewall control node is a MIDCOM agent.

Srisuresh discloses the MIDCOM Architecture and Framework wherein the middlebox controlling node is called a MIDCOM agent. Srisuresh discloses said agents to be nodes external to a middlebox, possessing a combination of application specific intelligence and knowledge of middlebox function so as to assist the middleboxes to perform their functions. (Section 4.0 MIDCOM Agents)

Xu-Huitema-Sollee, and Srisuresh are analogous art because they present concepts and practices regarding communication control for middlebox devices such as NATs and firewalls. At the time of the invention it would have been obvious to combine the teachings on MIDCOM agents by Srisuresh into the combination of Xu-Huitema-Sollee. The combination of Srisuresh into the network of Xu-Huitema-Sollee would 1) allow the CCM server to be enabled as a MIDCOM agent. The suggested motivation for doing so would have been, as Srisuresh suggests, to take advantage of existing in-path and out-of-path devices that already possess the application intelligence. (Section 4.1.1 In-Path MIDCOM Agent Illustration)

Therefore it would have been obvious to combine Srisuresh into the combination of Xu-Huitema-Sollee in order to arrive at the invention as described in Claim 13.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Xu et al.

(US Publication 2002/0114322) hereinafter referred to as Xu, in view of Huitema (IETF

Working Document 'MIDCOM Scenarios'), further in view of Solle (US Publication

2003/0009561) further in view of Elgebaly et al. (US Publication 2002/0152325),

hereinafter referred to as Elgebaly .

With respect to Claim 17, the combination of Xu-Huitema-Sollee do not

disclose a method as claimed in claim 1 wherein said middlebox-identity-providing node

is arranged to determine the identity of the first middlebox by automatically analysing

the communications network.

Elgebaly discloses of communication protocol for NAT type devices, wherein the

receiver of protocol data are configured to inspect endpoint values. If an embedded

address is non-routable, NAT has been detected. (Page 2 Paragraphs 19-20,

Paragraphs 23-27, Page 4 Paragraph 45-47)

Xu-Huitema-Sollee and Elgebaly are analogous art because they present

concepts and practices regarding communication control for middlebox devices such as

NATs and firewalls.

The Examiner respectfully suggests that at the time of the invention it would

have been obvious to combine the teachings on detecting NAT devices by Elgebaly into

the combination of Xu-Huitema-Sollee. The combination of Elgebaly into the

combination of Xu-Huitema-Sollee would 1) other device in the network to detect the

NAT device and determine the NAT device identification information. The suggested

motivation for doing so would have been, as Elgebaly suggests, in order to overcome

shortcomings for certain protocols when used in conjunction with NAT devices. (Page 1

Paragraph 4-6)

Therefore it would have been obvious to combine Elgebaly into the combination

of Xu-Huitema-Sollee in order to arrive at the invention as described in Claim 17.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 30,31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Xu

et al. (US Publication 2002/0114322) hereinafter referred to as Xu, in view of Huitema

(IETF Working Document 'MIDCOM Scenarios'),   further in view of Solle (US

Publication 2003/0009561),   further in view of Collins (US Publication 2003/0055978)

hereinafter referred to as Collins.

Xu-Huitema-Sollee do not disclose (re. Claims 30,31) a discovery algorithm to

automatically obtain information about the identity of middleboxes in the

communications network.

Collins disclosed (re. Claims 30,31) pre-established mappings between the NAT

devices and the local nodes connected behind the NATs. (Collins-Paragraph 31)

At the time of the invention it would have been obvious to combine the teachings

on detecting NAT devices by Collins into the combination of Xu-Huitema-Sollee. The

motivation for said combination would have been, as Collins suggests (Paragraph 05),

to overcome limitations with NATs arising from outside-initiated traffic flow.

Response to Arguments

Applicant's arguments filed 02/09/2007 have been fully considered but they are

moot in view of the new grounds for rejection.

The declaration under 37 CFR 1.132 filed 12/08/2006 has been carefully

considered by the Examiner.

With all due respect to the Applicant's expert testimony, the Examiner is

introducing new grounds for rejections with prior art by Sollee disclosing a *middlebox-*

identity-providing node.

The Examiner notes that Xu indicates a plurality of address realms as evidence

by the private networks 34a and 34b, with public network 12, where the middlebox

control node (Item 18- 'CCM server') is in a different address realm than the client

entities (Items 30a, 30d) and the middlebox (NAT Items 32a, 32b).

The Applicant presents the following argument(s) regarding prior art by Xu [*in*

italics]:

It is clear from paragraphs 0041 through to 0047 and paragraph 0061 that each

of the NAT/firewalls 32(a) and 32(b) operates in a conventional manner to translate

between private network IP address/port pairs for devices within their respective

address realms and public IP address port pairs...The NAT/firewalls provide their own

identities to CCM server 18 (middlebox control node)...

[In Xu]...None of proxy servers 14a and 14b or the directory server operates to

identify either of the NAT/firewalls 32(a) or 32(b) and to provide this identify to the CCM

server 18.

Since the address received by the proxy server 14 a comprise a private network

address of the first client 30a, it is unclear how proxy server 14a uses this to deterrmine

the identity of NAT/firewall 32(a) or 32(b).

...nowhere in Xu is it described that any of the proxy servers 14(a) or 140a) or

the directory server 20 sends the identity of the NAT/firewall 32(a) or 32(b), determined

by it, to the CCM server 18. As already indicated, the NAT/firewall 32(a) or 32(b)

provides its own identity to the CCM server 18 through the address translation

mechanism.

The Examiner has respectfully considered the arguments presented in light of the

Applicant expertise in the field.

Taken as a whole, it appears to the Examiner that the central argument regarding

Xu is that there is no other entity providing the identity of the NAT ('*middlebox*') to the

CCM ('*middlebox control node*') , except the NAT themselves, hence the *middlebox-*

identity-providing node is missing from Xu. As may be gleaned from the expert

testimony from the Applicant, all the conditions and structural elements identified by the

Applicant as essential to Claim 1 (see Declaration, pages 2-3) are present in Xu, with

the exception of said '*middlebox-identity-providing node*'.

The Examiner notes that the Applicant Specifications indicate (Applicant

Specifications Page 10) that '*In the case that the middlebox is a NAT the identity may*

be the IP address of the public side of the NAT', it would be obvious to person of

ordinary skill in the networking art that the *middlebox-identity-providing node* is equivalent any entity that provides the *the IP address of the public side of the NAT*.

The Examiner presents prior art by Sollee disclosing a media portal that provides *the IP address of the public side of the NAT*, and propagates the NAT public address to an application server for call setup.

Conclusion

Examiner's Note: Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.
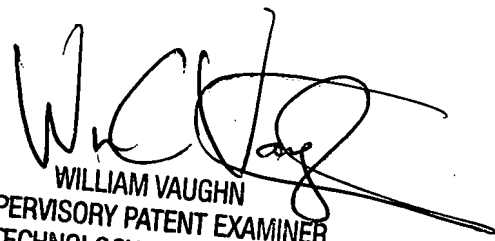
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Please refer to the enclosed PTO-892 form.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Greg Bengzon whose telephone number is (571) 272-3944. The examiner can normally be reached on Mon. thru Fri. 8 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Vaughn can be reached on (571) 272-3922. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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